

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A method for separating mono-branched hydrocarbons from a mixture of hydrocarbons comprising:

- bringing said mixture into contact with one adsorbent having a selectivity order from mono-branched to linear further to multi-branched hydrocarbons,
- preferentially and selectively adsorbing said mono-branched hydrocarbons by said adsorbent, and
- desorbing said mono-branched hydrocarbons from said adsorbent, thereby selectively separating said mono-branched hydrocarbons.

2. (Previously presented) The method according to claim 1 comprising the step of bringing said mixture into contact with only one adsorbent.

3. (Previously presented) A method for separating mixtures of hydrocarbons into fractions of linear, mono- branched and multi-branched hydrocarbons comprising the steps of:

- a. bringing said mixture into contact with only one adsorbent, said adsorbent having a selectivity order from mono-branched to linear further to multi- branched hydrocarbons,
- b. separating a stream enriched in multi-branched hydrocarbons from said adsorbent, thereby separating said multi-branched hydrocarbons,
- c. desorbing the linear hydrocarbons from said adsorbent, thereby separating said linear hydrocarbons, and
- d. desorbing said mono-branched hydrocarbons from said adsorbent, thereby separating said mono-branched hydrocarbons.

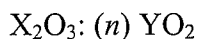
4. (Previously presented) The method according to claim 1, wherein said hydrocarbons are alkanes.

5. (Previously presented) The method according to claim 1, wherein said adsorbent is a zeolitic adsorbent.

6. (Previously presented) The method according to claim 1, wherein said adsorbent is a zeolitic adsorbent having cavities of which the dimensions are larger than the pore openings giving access to said cavities, these cavities having a smallest diameter of at least 4.5 Angström and a largest diameter of at least 10 Angström.

7. (Previously presented) The method according to claim 6, wherein said cavities have a smallest diameter between 4.5 and 15 Angström, and a largest diameter between 10 and 25 Angström.

8. (Previously presented) The method according to claim 5, wherein said zeolitic adsorbent comprises the molar relationship



wherein n is at least 2, X is a trivalent element and Y is a tetravalent element.

9. (Previously presented) The method according to claim 8, wherein n is at least 2, wherein X is selected from the group consisting of aluminum, iron, gallium and boron and wherein Y is silicon.

10. (Previously presented) The method according to claim 8, wherein n is at least 10, wherein X is aluminum, and wherein Y is silicon.

11. (Previously presented) The method according to claim 5, wherein said zeolitic adsorbent is MCM- 22.

12. (Previously presented) The method according to claim 5, wherein said zeolitic adsorbent has a pore occupancy comprised between 0.01 and 100%.

13. (Previously presented) The method according to claim 4 wherein said mixture of alkanes is a mixture selected from linear, mono-branched and multi-branched alkanes.

14. (Previously presented) The method according to claim 13, wherein said mixture comprises 0.1-99.9% linear, 0.1-99.9% mono-branched and 0.1-90% multi-branched alkanes.

15. (Previously presented) The method according to claim 13, wherein said mixture of alkanes is a mixture of linear and mono-branched alkanes in a ratio comprised between 1: 100 to 100: 1.

16. (Previously presented) The method according to claim 15, wherein said mixture comprises mono-branched and linear alkanes in a ratio of 1: 1.

17. (Previously presented) The method according to claim 1, wherein said separation is based on entropic effects.

18. (Currently amended) A method for separating mono-branched hydrocarbons from a mixture of hydrocarbons consisting of linear, mono-branched, and multi-branched alkanes which comprises bringing said mixture of hydrocarbons into contact with only one zeolitic adsorbent, wherein mono-branched alkanes from said mixture are preferentially absorbed.

19-21. (Canceled)

22. (Previously presented) The method according to claim 18, wherein said separation is based on entropic effects.

23. (~~Previously presented~~Currently amended) ~~A method for separating mixtures of non-aromatic hydrocarbons into fractions of linear, mono-branched and multi-branched hydrocarbons which comprises contacting said mixture with~~The method according to claim 18, wherein said one zeolitic adsorbent is MCM-22 as a zeolite having a catalytic and an adsorbent activity.